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**CHAPTER 1  
ANNUAL EVALUATION REPORT  
Fiscal Years 1987 - 1989**

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**CHAPTER 1**

**FISCAL YEARS 1987-1989**



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# INTRODUCTION

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This evaluation report covers three years of operation of federally funded Chapter 1 compensatory education programs in Massachusetts. The three years covered by the report are fiscal years 1987, 1988 and 1989. The report is based primarily on data provided annually by local Chapter 1 programs in the Performance and Achievement Report. It contains information regarding levels of participation, staffing, and project impact on achievement test scores. The report contains data from virtually all local Chapter 1 programs, representing approximately ninety-nine percent of all Chapter 1 students, for each of these three years.

This report contains three sections:

- LEA participation and funding;
- Description of Chapter 1 Programs; and
- Effect on Educational Achievement.

The first section describes the extent of LEA participation and funding levels by county in each of the three reporting years. The second presents data on schools and students eligible and served, services provided, and staff. The third section analyzes the impact of these services on student achievement in reading, other language arts, and mathematics.



# LEA PARTICIPATION AND FUNDING

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## PARTICIPATION OF MASSACHUSETTS LOCAL EDUCATIONAL AGENCIES

Table 1 shows the number of Massachusetts school districts which participated in Chapter 1 programs in the three Fiscal Years (FY) 1987-89, either through operating their own program or by belonging to a cooperative Chapter 1 program. For example, in FY 1987 225 Local school districts operated their own Chapter 1 program. Twenty-eight Regional Academic districts and 13 Voc-Tech Regional districts operated their own programs in FY 1987. Another ten Local districts were the fiscal agent for a cooperative program. Thus, there were 235 Local districts operating Chapter 1 programs. An additional 43 Local districts were members of a cooperative program. Therefore, the total number of Local districts participating in Chapter 1 programs in FY 1987 was 278. Only four of the 282 Local school districts in Massachusetts did not participate in a Chapter 1 program during FY 1987. Overall in FY 1987, 268 LEAs operated their own Chapter 1 program, 63 LEAs participated in 16 cooperative programs, and 37 LEAs did not participate in Chapter 1.

The small decrease trend in LEA participation in Chapter 1 over the three-year period is accompanied by a similar trend in the total number of LEAs operating in the Commonwealth. The total decrease of five LEAs participating in Chapter 1 from FY 1987 to FY 1989 is matched by a decrease of five operating LEAs.

Table 2 contains the percentage of LEAs that participated in Chapter 1 for the three years. Almost all Local school districts participated in a Chapter 1 program during this period. Almost three-fourths of the Regional Academic school districts participated, and approximately half of the Voc-Tech Regional school districts operated a Chapter 1 program each year. Overall, just under ninety percent of the operating LEAs in Massachusetts participated in Chapter 1 programs each year.

## ALLOCATIONS BY COUNTY

Allocation of Chapter 1 funds to each county is based on the number of low-income children, aged 5-17, inclusive. Table 3 presents these allocations for the FY 1987-89 period and the percentage change from the previous year. For example, in FY 1987 the greatest allocations were made to Suffolk and Middlesex counties. All counties were allocated less funds than in FY 1986. Nantucket County lost the greatest percentage; Suffolk County lost the greatest amount.



TABLE 1  
School District Participation in Chapter 1  
Fiscal Years 1987-89

Type of Participation	Type of District										Other*		Total		
	Local			Regional			Voc-Tech			Other*		Total			
1987	1988	1989	1987	1988	1989	1987	1988	1989	1987	1988	1989	1987	1988	1989	
Operating Single-District Chapter 1 Program	225	223	219	28	27	27	13	12	14	2	1	1	268	263	262
Agent for Cooperative Chapter 1 Program	10	8	7	6	8	9	-	-	-	-	-	-	16	16	16
Operating Chapter 1 Program	235	231	227	34	35	36	13	12	14	2	1	1	284	279	278
Member of Cooperative Chapter 1 Program	43	44	45	4	4	3	-	-	-	-	-	-	47	48	48
Participating in Chapter 1 Program	278	275	272	38	39	39	13	12	14	2	1	1	331	327	326
Not Participating in Chapter 1 Program	4	4	5	15	15	15	14	14	12	4	5	5	37	38	37
ALL DISTRICTS	282	279	277	53	54	54	27	26	26	6	6	6	368	365	363

\* Other = Independent Vocational and County Agricultural

TABLE 2  
Percentage of School Districts Participating in Chapter 1  
Fiscal Years 1987-89

Type of District	FY 1987	FY 1988	FY 1989
Local	96.6	98.6	98.2
Regional	71.7	72.2	72.2
Voc-Tech	48.1	46.2	53.8
Other	33.3	16.7	16.7
ALL DISTRICTS	89.9	89.6	89.8



TABLE 3  
Allocation of Chapter 1 Funds and Percentage Change by County  
Fiscal Years 1987-89

County	FY 1987		FY 1988		FY 1989	
	Allocation*	% Change*	Allocation	% Change	Allocation	% Change
Barnstable	1,440,045	- 7.3	1,664,622	15.6	1,906,831	14.6
Berkshire	1,570,706	- 7.7	1,829,740	16.5	2,090,570	14.3
Bristol	6,627,081	- 6.5	7,721,803	16.5	8,849,586	14.6
Dukes	80,157	- 4.8	91,433	14.1	103,853	13.6
Essex	7,593,598	- 6.9	8,866,869	16.8	10,156,039	14.5
Franklin	709,366	- 7.2	827,739	16.7	942,047	13.8
Hampden	7,707,115	- 7.3	9,025,533	17.1	10,244,528	13.5
Hampshire	1,041,577	- 6.0	1,210,145	16.1	1,389,411	14.8
Middlesex	10,560,795	- 6.9	12,322,506	16.7	14,049,586	14.0
Nantucket	20,417	- 15.0	23,127	13.3	25,810	11.6
Norfolk	4,015,725	- 6.5	4,659,866	16.0	5,329,047	14.4
Plymouth	4,725,554	- 7.1	5,500,514	16.4	6,269,865	14.0
Suffolk	14,223,922	- 6.8	16,583,831	16.6	18,876,577	13.8
Worcester	7,472,667	- 7.9	8,756,612	17.1	9,966,154	13.8
<b>TOTAL</b>	<b>67,788,725</b>	<b>- 7.0</b>	<b>79,084,340</b>	<b>16.7</b>	<b>90,199,904.00</b>	<b>14.1</b>

\* Allocations are rounded to the nearest dollar. Percentage change is relative to the previous year.



# **DESCRIPTION OF CHAPTER 1 PROGRAMS**

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## **SCHOOL PARTICIPATION**

Massachusetts Chapter 1 programs reporting in FY 1987 indicated there were 1,641 public schools in the LEAs served by these programs (Table 4). They also indicated 1,097 or 66.8 percent (Table 5) of these schools were eligible for Chapter 1 services. Chapter 1 programs served 1,004 or 61.2 percent of the public schools in participating LEAs. The percentage of eligible schools served by Chapter 1 was 91.5.

Tables 4 and 5 present the number and percentage, respectively, of public elementary, junior high, and high schools eligible and served by reporting Chapter 1 programs in each of the three fiscal years. Table 4 shows that the total number of public schools increased a little from 1987 to 1988, but decreased overall from 1987 to 1989. The total number of eligible schools decreased in both 1988 and 1989. The total number of public schools served by Chapter 1 decreased from 1987 to 1988, but increased overall from 1987 to 1989. All of these changes, however, were quite small.

Table 5 shows that about two-thirds of all public schools were eligible for Chapter 1 in each of these years. About 70 percent of the elementary schools were eligible versus only about one-half of the high schools. About 60 percent of all public schools were served by Chapter 1 in each year. Two-thirds of the elementary schools were served versus about one-third of the high schools. Also, there was a small increase in the percentage of secondary public schools served in FY 1989 compared to FY 1987. Finally, slightly over 90 percent of all eligible public schools were served by Chapter 1 each year. Almost all of the eligible public elementary schools were served each year while only about two-thirds of the eligible public high schools were served. On the other hand, the percentage of eligible high schools served grew from 62.8% in 1987 to 73.9% in 1989.



TABLE 4  
Number of Public Schools Eligible and Served by Chapter 1 by Grade Span  
Fiscal Years 1987-89

Grade Span*	All Schools			Schools Eligible for Chapter 1			Schools Served by Chapter 1		
	FY 1987	FY 1988	FY 1989	FY 1987	FY 1988	FY 1989	FY 1987	FY 1988	FY 1989
Elementary (Pre-K - 6)	1,145 **(69.8)	1,155 (69.7)	1,147 (70.7)	800 (72.9)	803 (73.8)	805 (74.5)	782 (78.9)	775 (77.5)	780 (77.3)
Junior High (7 - 9)	264 (16.1)	274 (16.5)	253 (15.6)	176 (16.1)	173 (15.9)	160 (14.8)	146 (14.5)	150 (15.0)	144 (14.3)
High School (10 - 12)	232 (14.1)	229 (13.8)	222 (13.7)	121 (11.0)	112 (10.3)	115 (10.7)	76 (7.6)	75 (7.5)	85 (8.4)
<b>TOTAL</b>	<b>1,641</b>	<b>1,658</b>	<b>1,622</b>	<b>1,097</b>	<b>1,088</b>	<b>1,080</b>	<b>1,004</b>	<b>1,000</b>	<b>1,009</b>

\* Schools are assigned to a span based on the majority of grades served. Ties go to the lower span.

\*\* Percentage of total

TABLE 5  
Percentage of Public Schools Eligible and Served by Chapter 1 by Grade Span  
Fiscal Years 1987-89

Grade Span*	Percentage of Schools Eligible for Chapter 1			Percentage of Schools Served by Chapter 1			Percentage of Eligible Schools Served by Chapter 1		
	FY 1987	FY 1988	FY 1989	FY 1987	FY 1988	FY 1989	FY 1987	FY 1988	FY 1989
Elementary	69.9	69.5	70.2	68.3	67.1	68.0	97.8	96.5	96.9
Junior High	66.7	63.1	63.2	55.3	54.7	56.9	83.0	86.7	90.0
High School	52.2	48.9	51.8	32.8	32.8	38.3	62.8	67.0	73.9
<b>TOTAL</b>	<b>66.8</b>	<b>65.6</b>	<b>66.6</b>	<b>61.2</b>	<b>60.3</b>	<b>62.2</b>	<b>91.5</b>	<b>91.9</b>	<b>93.4</b>

\* Schools are assigned to a span based on the majority of grades served. Ties go to the lower span.



## STUDENT PARTICIPATION

Table 6 contains the number of public school students who were reported as eligible for Chapter 1 services and the number who were served for each year. It also contains the percentage of eligible public school students who were served in each year. In FY 1987 and 1988, the number of students eligible was around 85,000; 73 percent of those were in public elementary schools, 18 percent were in junior highs, and less than ten percent were in high schools. In FY 1989 the number of eligible students grew to over 100,000 with a greater percentage coming from junior and senior high schools. This result undoubtedly reflects the increased emphasis on reporting all eligible students, regardless of whether Chapter 1 services were provided to them or in their school, which accompanied the new reporting requirements associated with the Hawkins-Stafford Amendments.

The number of public school students served by Chapter 1 in these three grade spans did not change much between 1987 and 1989, dropping from 74,963 in FY 1987 to 70,142 in FY 1989. However, due to the increase in number eligible described above, the percentage of eligible public school students who were served dropped from about 85 percent in FY 1987 and FY 1988 to 66 percent in FY 1989.

The number and percentage of students served by Chapter 1 in both public and nonpublic schools for each year is shown in Table 7. In all three years, approximately one-half of all students served were in grades 1 - 4; about two-thirds were in grades 1 - 6. Only ten percent were in grades 9 - 12; less than ten percent were in Kindergarten or Pre-Kindergarten programs. The percentage of nonpublic school students in grades 1 - 6 tended to be higher (about 80%). The overall number of students served by Chapter 1 decreased between 1987 and 1989. The number of nonpublic school students went up a little in 1988, but decreased below the 1987 level in 1989. Students from nonpublic schools accounted for about five percent of the total number served each year.



**TABLE 6**  
**Number and Percentage of Public School Students Eligible and Served by Chapter 1 by Grade Span**  
**Fiscal Years 1987-89**

Grade Span*	Number of Students Eligible for Chapter 1			Number of Students Served by Chapter 1			Percentage of Eligible Students Served by Chapter 1		
	FY 1987	FY 1988	FY 1989	FY 1987	FY 1988	FY 1989	FY 1987	FY 1988	FY 1989
Elementary (Pre-K - 6)	63,700 **(73.0)	61,905 (73.7)	68,470 (64.4)	56,306 (75.1)	54,784 (74.9)	53,009 (75.3)	88.4	88.5	77.4
Junior High (7 - 9)	15,497 (17.7)	15,532 (18.5)	21,494 (20.3)	14,152 (18.9)	14,339 (19.6)	13,261 (18.8)	91.3	92.3	61.7
High School (10 - 12)	8,077 (9.3)	6,582 (7.8)	16,276 (15.3)	4,505 (6.0)	4,023 (5.5)	4,142 (5.9)	55.8	61.1	25.4
<b>TOTAL</b>	<b>87,274</b>	<b>84,019</b>	<b>106,240</b>	<b>74,963</b>	<b>73,146</b>	<b>70,142</b>	<b>85.9</b>	<b>87.1</b>	<b>66.3</b>

\* Schools are assigned to a span based on the majority of grades served. Ties go to the lower span.  
 \*\* Percentage of total



TABLE 7  
Number of Public and Nonpublic Students Served by Chapter 1 by Grade Level  
Fiscal Years 1987-89

Grade	Public School Students			Nonpublic School Students			Total		
	FY 1987	FY 1988	FY 1989	FY 1987	FY 1988	FY 1989	FY 1987	FY 1988	FY 1989
Pre-K	1,549 (2.1)*	1,621 (2.2)	1,739 (2.5)	-	6 (1.3)	11 (0.3)	1,549 (2.0)	1,627 (2.1)	1,750 (2.3)
K	4,766 (6.4)	4,700 (6.4)	4,883 (6.9)	108 (2.5)	106 (2.3)	118 (2.9)	4,874 (6.1)	4,806 (6.2)	5,001 (6.7)
1	9,922 (13.2)	10,222 (14.0)	9,351 (13.3)	654 (14.9)	555 (11.8)	521 (12.8)	10,576 (13.3)	10,777 (13.8)	9,872 (13.3)
2	9,676 (12.9)	9,647 (13.2)	9,076 (12.9)	730 (16.6)	768 (16.4)	651 (15.9)	10,406 (13.1)	10,415 (13.4)	9,727 (13.1)
3	9,031 (12.0)	8,296 (11.3)	8,239 (11.7)	688 (15.7)	665 (14.2)	708 (17.3)	9,719 (12.2)	8,961 (11.5)	8,947 (12.0)
4	8,135 (10.9)	7,562 (10.3)	7,537 (10.7)	622 (14.2)	654 (14.0)	588 (14.4)	8,757 (11.0)	8,216 (10.6)	8,125 (10.9)
5	7,218 (9.6)	6,721 (9.2)	6,370 (9.0)	555 (12.6)	608 (13.0)	412 (10.1)	7,773 (9.8)	7,329 (9.4)	6,782 (9.1)
6	6,009 (8.0)	6,015 (8.2)	5,814 (8.3)	326 (7.4)	529 (11.3)	428 (10.5)	6,335 (8.0)	6,544 (8.4)	6,242 (8.4)
7	5,587 (7.5)	5,486 (7.5)	5,350 (7.6)	273 (6.2)	298 (6.4)	277 (6.8)	5,860 (7.4)	5,784 (7.4)	5,627 (7.6)
8	5,231 (7.0)	5,179 (7.1)	4,595 (6.5)	224 (5.1)	246 (5.3)	212 (5.2)	5,455 (6.9)	5,425 (7.0)	4,807 (6.5)
9	3,334 (4.4)	3,674 (5.0)	3,316 (4.7)	62 (1.4)	112 (2.4)	67 (1.6)	3,396 (4.3)	3,786 (4.9)	3,383 (4.5)
10	2,275 (3.0)	2,385 (3.3)	2,281 (3.2)	66 (1.5)	95 (2.0)	46 (1.1)	2,341 (3.0)	2,480 (3.2)	2,327 (3.1)
11	1,248 (1.7)	1,068 (1.5)	1,178 (1.7)	45 (1.0)	29 (0.6)	21 (0.5)	1,293 (1.6)	1,097 (1.4)	1,199 (1.6)
12	982 (1.3)	570 (0.8)	683 (0.9)	39 (0.9)	13 (0.3)	26 (0.6)	1,021 (1.3)	583 (0.7)	85709 (0.9)
<b>TOTAL</b>	<b>74,963 (100)</b>	<b>73,146 (100)</b>	<b>70,412 (100)</b>	<b>4,392 (100)</b>	<b>4,684 (100)</b>	<b>4,086 (100)</b>	<b>79,355 (100)</b>	<b>77,830 (100)</b>	<b>74,498 (100)</b>

\* Percentage of total



## CHAPTER 1 SERVICES PROVIDED TO STUDENTS

The number and percentage of students who received instructional and supportive services from Chapter 1 in each year is shown in Table 8. For example, there were 45,070 students who received reading instruction from Chapter 1 in FY 1987. This number represents 56.8 percent of the 79,355 students served by Chapter 1 in that year. Percentages served in reading and mathematics decreased a little in FY 1988, but increased above 1987 levels in FY 1989. Other language arts services increased a little each year.

**TABLE 8**  
**Number and Percentage of Students Served by Chapter 1 in Each Service Area**  
**Fiscal Years 1987-89**

Service Area	FY 1987		FY 1988		FY 1989	
	Number	Percent*	Number	Percent	Number	Percent
<b>INSTRUCTIONAL</b>						
Reading	45,070	56.8	41,977	53.9	40,284	54.1
Mathematics	23,742	29.9	21,526	27.7	25,222	33.9
Other Language Arts	15,215	19.2	17,318	22.2	18,442	24.8
Other	5,889	7.4	3,483	4.5	4,557	6.1
<b>SUPPORTIVE</b>						
Health and Nutrition	3,005	3.8	1,679	2.2	6,840	9.2
Social and Emotional Development	4,081	5.1	2,993	3.8	3,495	4.7
Pupil Transportation	946	1.2	853	1.1	1,627	2.2
Other	726	0.9	410	0.5	1,203	1.6
<b>TOTAL (Table 7)</b>	<b>79,355</b>		<b>77,830</b>		<b>74,498</b>	

\* Percentages are based on the total number served by Chapter 1 from Table 7. These percentages sum to more than 100 because some students received more than one service.



## TYPE OF STAFF

Table 9 illustrates the number and percentage of full-time equivalent staff (FTEs) employed by Chapter 1 programs during the three-year period. Teachers and teacher aides accounted for the vast majority of Chapter 1 staff FTEs in each year (about 87%). The percentage of FTEs increased slightly over the three years for teachers and decreased slightly for teacher aides. Also, the total number of FTEs funded by Chapter 1 decreased each year.

**TABLE 9**  
**Number of Staff (in FTEs) Employed in Chapter 1 by Job Classification**  
**Fiscal Years 1987-89**

Job Classification	FY 1987	FY 1988	FY 1989
Teachers	1,893.8 (56.5)*	1,861.3 (57.4)	1,935.3 (60.5)
Teacher Aides	1,004.5 (30.0)	966.2 (29.8)	869.1 (27.2)
Administrative Staff	111.5 (3.3)	107.0 (3.3)	109.3 (3.4)
Clerical Staff	93.3 (2.8)	87.0 (2.7)	81.8 (2.6)
Support Service Staff	65.4 (2.0)	65.7 (2.0)	65.2 (2.0)
Curriculum Specialists	30.9 (0.9)	34.3 (1.1)	18.6 (0.6)
Parent Coordinators	35.9 (1.1)	29.1 (0.9)	23.3 (0.7)
Other	112.0 (3.4)	90.3 (2.8)	94.9 (3.0)
<b>TOTAL</b>	<b>3,347.3 (100.0)</b>	<b>3,240.9 (100.0)</b>	<b>3,197.5 (100.0)</b>

\* Percentage of total



# **EFFECT ON EDUCATIONAL ACHIEVEMENT**

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## **MEASURING STATEWIDE IMPACT OF CHAPTER 1 PROGRAMS**

Since FY 1980, Massachusetts Chapter 1 programs have, almost exclusively, measured program impact on student achievement using the norm-referenced model. Beginning in FY 1989, this evaluation model is required unless permission is obtained to use an alternative model. The norm-referenced model is simply a comparison of pretest and posttest performance on a norm-referenced achievement test using a test score which is referenced to the test's norming group. The average pretest score for the Chapter 1 students is compared to the distribution of scores obtained by the norming group at the same time of the school year. This comparison requires obtaining the percentile rank of the average pretest score. It is assumed that the Chapter 1 students would have an average posttest score with the same percentile rank if they had not participated in the program. Thus, the program's impact is the percentile rank of the group's average posttest score minus the percentile rank of the group's average pretest score.

In order to aggregate program impact across Chapter 1 programs, the percentile ranks of the average pre- and posttest scores for each program are converted to an equal-interval scale, known as the Normal Curve Equivalent (NCE). Aggregated program impact is expressed using NCE gains from pretest to posttest. The remainder of this section of the evaluation report presents the aggregated Chapter 1 program impact on student achievement in reading, mathematics, and other language arts for grades 2 through 12 in Massachusetts for the three fiscal years 1987 through 1989.

Table 10 shows the number of Chapter 1 program participants in grades 2 through 12 for whom both pretest and posttest achievement test scores were obtained during each year. The number of tested participants is presented for each of the three subject areas—reading, mathematics, and other language arts. In addition, these numbers are broken down by testing schedule: fall-spring versus annual (spring-spring or fall-fall).

As might be expected, the numbers tested in reading exceed the number tested in mathematics, which exceeds other language arts. A comparison with the number of students served in these subject areas (see Table 8) provides some indication of the relative number of students served who were also pre- and posttested. However, the numbers in Table 8 include students in grades Pre-K through 1. Thus, the actual proportion tested is somewhat higher than would result from a direct calculation.

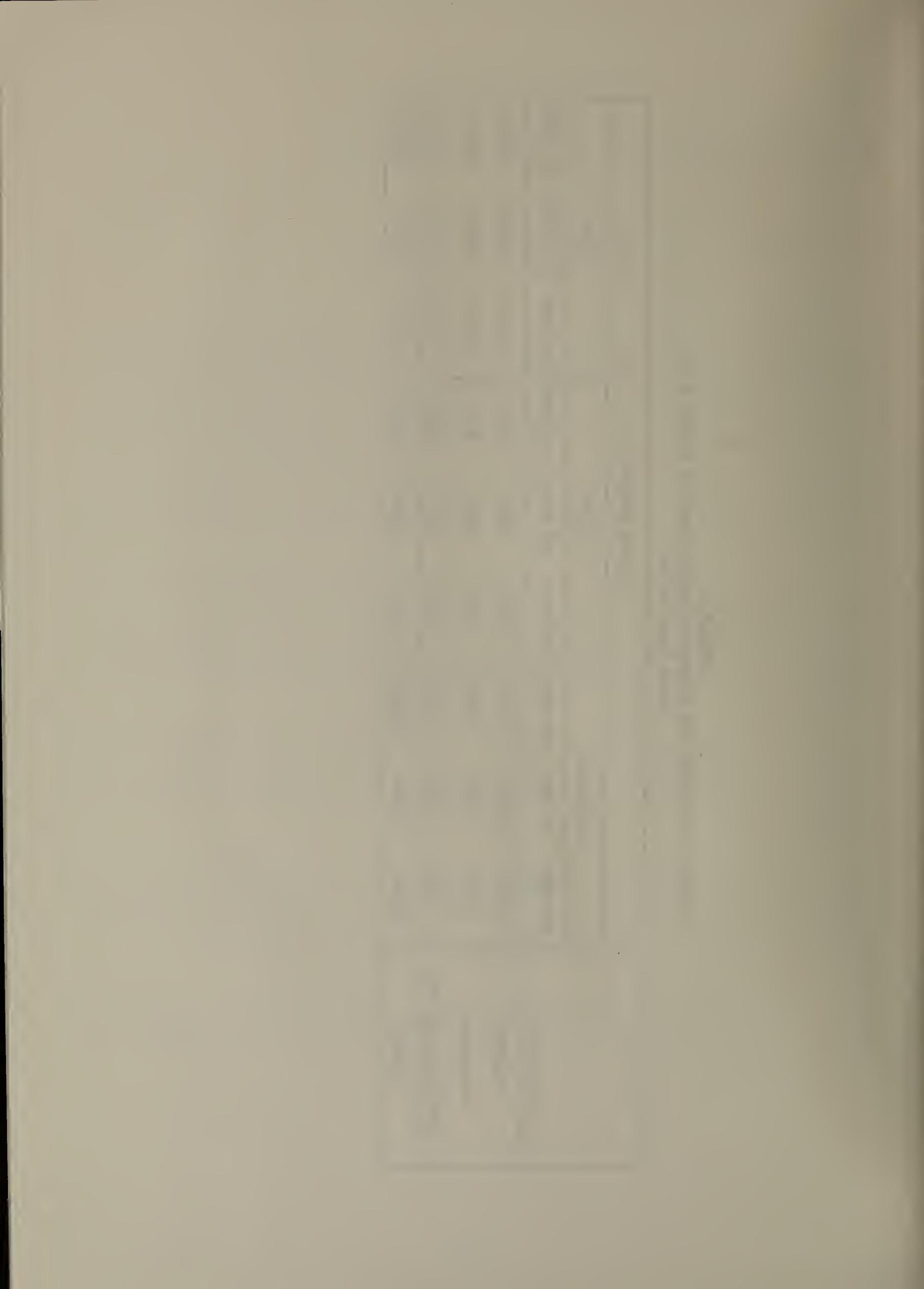
There was a definite shift from fall-spring to annual testing in FY 1989 which was undoubtedly due to the change in evaluation requirements under the Hawkins-Stafford Amendments. Local Chapter 1 programs were encouraged, but not required, to report program outcomes based on an annual testing schedule in FY 1989.

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**TABLE 10**  
**Number of Students with Pretest and Posttest Scores in Grades 2 - 12**  
**Fiscal Years 1987-89**

Subject Area	Testing Schedule						Total		
	Fall-Spring		Annual						
	FY 1987	FY 1988	FY 1989	FY 1987	FY 1988	FY 1989	FY 1987	FY 1988	FY 1989
Reading	19,219	20,729	14,162	8,143	5,591	11,592	27,362	26,320	25,754
Mathematics	11,931	11,854	9,371	2,877	2,927	5,191	14,808	14,781	14,562
Other Language Arts	4,322	5,322	5,119	2,098	2,368	2,835	6,420	7,690	7,954
<b>TOTAL</b>	<b>35,472</b>	<b>37,905</b>	<b>28,652</b>	<b>13,118</b>	<b>10,886</b>	<b>19,618</b>	<b>48,590</b>	<b>48,791</b>	<b>48,270</b>



## READING

The aggregated statewide Chapter 1 impact for students in reading programs is presented in Tables 11 and 12. For programs using a fall-spring testing schedule (Table 11), the average NCE gain overall was 7.1 in FY 1987, 8.1 in FY 1988, and 8.6 in FY 1989. The highest gains each year were generally in grades 2, 3, and 4. NCE gains in grades 7 through 12 were generally between 5 and 6 in 1987 and 1988, but increased to around 6 or 7 in 1989.

Programs using an annual testing schedule (Table 12) showed an overall NCE gain of 4.0 in FY 1987, 3.5 in FY 1988, and 4.0 in FY 1989. The largest gains were in grades 2, 5, and 12 in 1987, grades 2, 4, and 9 in 1988, and grades 2, 4, and 12 in 1989. Losses were obtained in grades 4 and 11 in 1987, in grades 7 and 11 in 1988, and in grade 11 in 1989.

## MATHEMATICS

Tables 13 and 14 present the aggregated statewide impact of Chapter 1 programs providing supplementary mathematics instruction. Table 13 shows that the overall NCE gain for fall-spring results was 10.6 in FY 1987, 10.9 in FY 1988, and 10.8 in FY 1989. NCE gains were greatest in grades 2, 3, and 4 in all three years. Fall-spring NCE gains were smallest in grade 12 in 1987 and 1988, and in grade 10 in 1989.

Annual NCE gains in mathematics (Table 14) averaged 7.6 in FY 1987 and 6.2 in FY 1988 and 1989. Very little annual testing was done above grade 8. The greatest gains were in grades 2, 3, and 4 in all three years. Grade 7 showed consistent low gains across the years.

## OTHER LANGUAGE ARTS

Tables 15 and 16 present the statewide average NCE gains for other language arts in FY 1987 through 1989. Fall-spring average NCE gains overall were 6.3 in FY 1987, 7.3 in FY 1988, and 8.5 in FY 1989. Grade 2 gains were the highest during the three-year period. Otherwise, results for individual grades were mixed across the years. Annual testing results in other language arts showed overall NCE gains of 5.0 in FY 1987, 2.4 in FY 1988, and 3.4 in FY 1989. Very few students were tested in grades 9 through 12. Results across grades were generally mixed in each year with grades 2 and 3 yielding the highest gains overall.

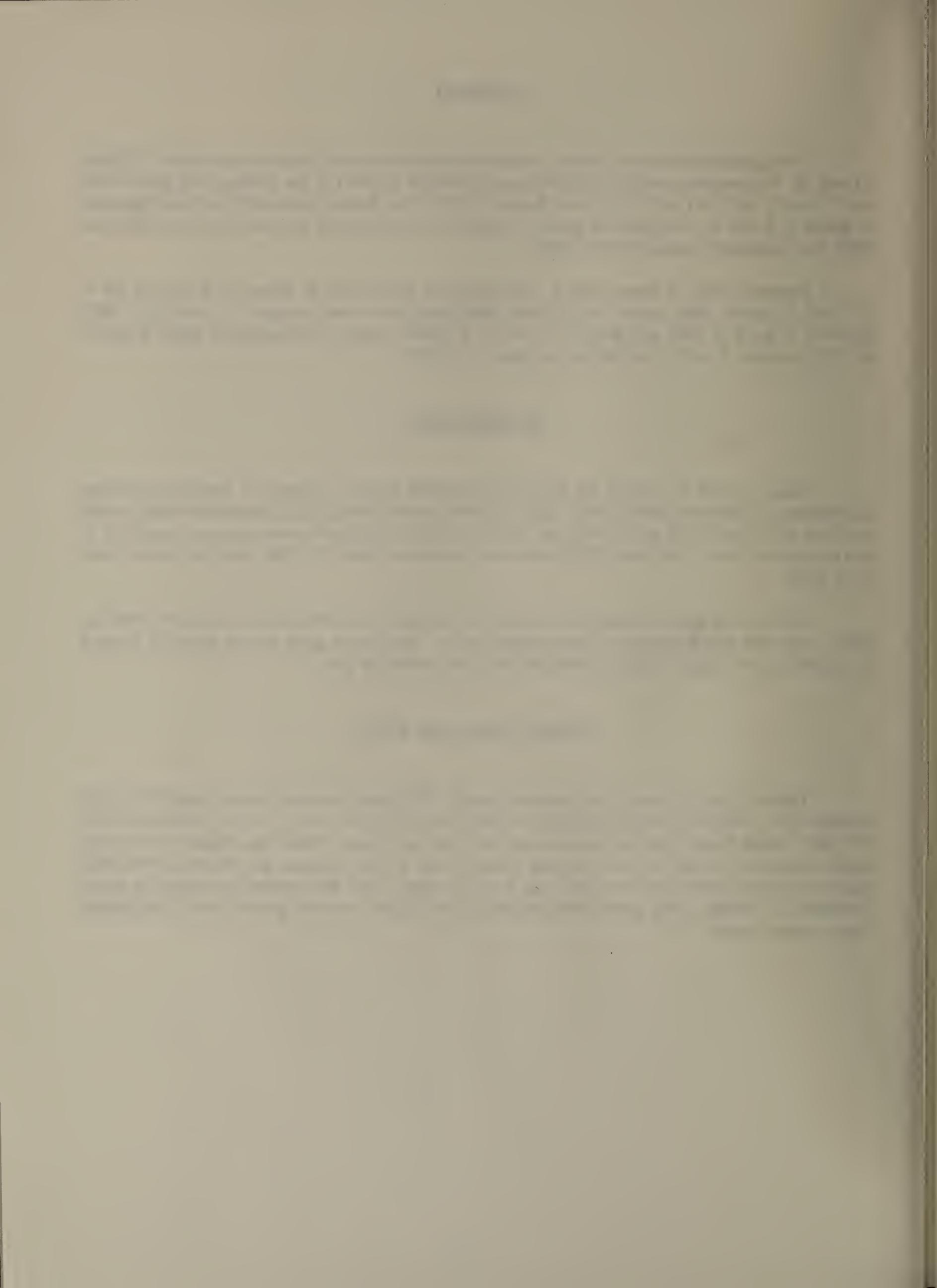


TABLE 11  
Reading Achievement Results — Fall-Spring Testing  
Fiscal Years 1987-89

Grade	FY 1987			FY 1988			FY 1989		
	Number Tested	Weighted NCE Mean		Number Tested	Weighted NCE Mean		Number Tested	Weighted NCE Mean	
		Pre	Post		Pre	Post		Pre	Post
2	3,617	35.3	45.5	10.2	4,197	32.2	44.6	12.4	2,767
3	3,018	34.7	43.7	9.0	3,431	32.8	42.6	9.8	2,456
4	2,514	35.7	42.4	6.7	2,776	34.8	41.9	7.1	1,835
5	2,284	35.5	41.4	5.9	2,455	32.5	39.8	7.3	1,558
6	1,925	35.6	41.2	5.6	2,150	32.6	39.1	6.5	1,457
7	2,050	33.5	38.6	5.1	1,923	32.3	37.8	5.5	1,146
8	1,745	32.7	37.5	4.8	1,601	29.9	35.7	5.8	1,034
9	953	32.9	38.7	5.8	1,036	28.5	34.3	5.8	902
10	589	32.3	37.9	5.6	622	32.6	38.1	5.5	627
11	324	32.8	37.6	4.8	299	39.8	36.3	-3.5	252
12	200	33.2	38.0	4.8	239	36.5	41.5	5.0	128
<b>TOTAL</b>	19,219	34.6	41.7	7.1	20,729	32.5	40.6	8.1	14,162
									33.1
									41.7
									8.6



TABLE 12  
Reading Achievement Results — Annual Testing  
Fiscal Years 1987-89

Grade	FY 1987			FY 1988			FY 1989					
	Number Tested	Weighted NCE Mean		Number Tested	Weighted NCE Mean		Number Tested	Weighted NCE Mean				
		Pre	Post		Pre	Post		Pre	Post			
2	1,126	36.3	44.9	8.6	683	36.8	43.6	6.8	1,813	36.5	43.4	6.9
3	1,017	36.9	39.8	2.9	845	37.4	41.8	4.4	1,785	37.8	40.2	2.4
4	1,176	40.9	40.4	-0.5	872	36.6	41.2	4.6	1,791	35.2	41.4	6.2
5	1,190	34.7	41.3	6.6	809	36.6	40.7	4.1	1,526	36.2	40.0	3.8
6	804	32.6	38.4	5.8	485	36.8	38.7	1.9	1,146	35.1	38.9	3.8
7	965	36.2	36.9	0.7	674	34.4	33.8	-0.6	1,076	35.7	36.5	0.8
8	809	32.2	35.5	3.3	644	31.4	33.4	2.0	1,125	33.2	36.8	3.6
9	580	29.9	35.2	5.3	246	31.5	36.4	4.9	568	35.0	38.4	3.4
10	250	28.5	31.3	2.8	211	32.2	35.8	3.6	344	32.8	36.6	3.8
11	128	24.2	23.1	-1.1	75	27.4	26.1	-1.3	241	28.2	26.5	-1.7
12	98	20.5	26.5	6.0	47	22.8	27.3	4.5	177	24.7	31.0	6.3
<b>TOTAL</b>	8,143	34.9	38.9	4.0	5,591	35.3	38.8	3.5	11,592	35.4	39.4	4.0



TABLE 13  
**Mathematics Achievement Results — Fall-Spring Testing**  
**Fiscal Years 1987-89**

Grade	FY 1987			FY 1988			FY 1989					
	Number Tested	Weighted NCE Mean		Number Tested	Weighted NCE Mean		Number Tested	Weighted NCE Mean				
		Pre	Post		Pre	Post		Pre	Post			
2	1,815	34.4	48.9	14.5	1,823	33.0	49.1	16.1	1,475	31.3	48.2	16.9
3	2,020	34.6	47.8	13.2	1,953	34.5	47.0	12.5	1,404	34.0	47.2	13.2
4	1,984	35.9	47.1	11.2	1,895	33.6	45.4	11.8	1,422	35.0	46.1	11.1
5	1,656	35.6	44.6	9.0	1,634	34.0	43.4	9.4	1,160	34.3	42.8	8.5
6	1,282	35.8	45.3	9.5	1,337	34.4	43.5	9.1	1,054	32.4	42.4	10.0
7	1,007	32.8	39.9	7.1	1,150	31.7	39.1	7.4	791	31.9	40.2	8.3
8	815	31.7	37.6	5.9	900	31.4	38.9	7.5	597	29.3	37.9	8.6
9	769	32.1	42.0	9.9	697	27.3	36.9	9.6	769	27.1	36.1	9.0
10	330	30.0	37.4	7.4	303	26.1	33.1	7.0	442	29.3	32.8	3.5
11	153	25.0	33.8	8.8	103	24.3	34.1	9.8	202	25.1	31.1	6.0
12	100	28.7	32.0	3.3	59	29.9	34.8	4.9	55	24.3	31.3	7.0
<b>TOTAL</b>	<b>11,931</b>	<b>34.2</b>	<b>44.8</b>	<b>10.6</b>	<b>11,854</b>	<b>32.8</b>	<b>43.7</b>	<b>10.9</b>	<b>9,371</b>	<b>32.1</b>	<b>42.9</b>	<b>10.8</b>

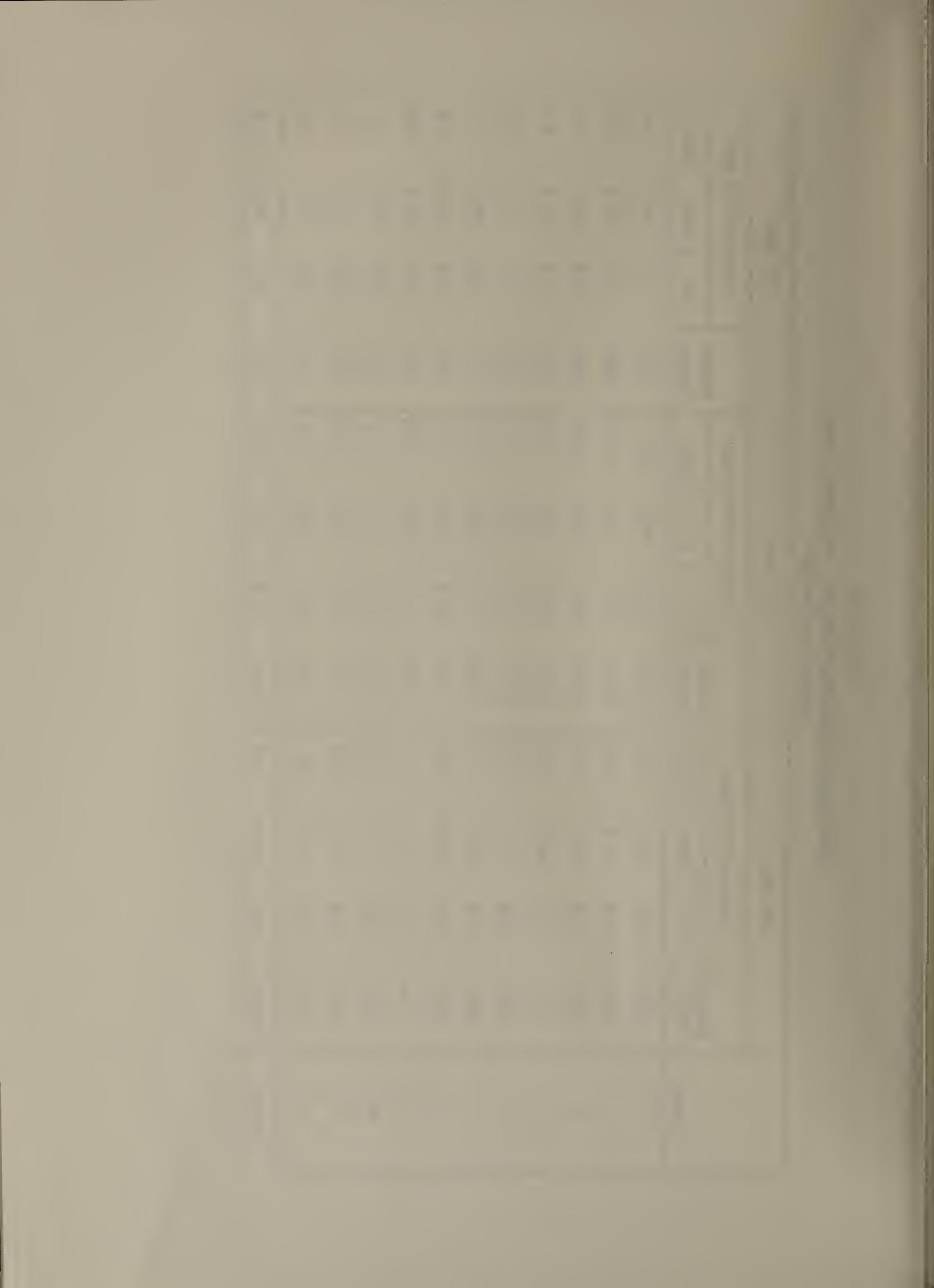


TABLE 14  
Mathematics Achievement Results — Annual Testing  
Fiscal Years 1987-89

Grade	FY 1987			FY 1988			FY 1989		
	Number Tested	Weighted NCE Mean		Number Tested	Weighted NCE Mean		Number Tested	Weighted NCE Mean	
		Pre	Post		Pre	Post		Pre	Post
2	313	38.3	53.7	15.4	470	31.7	43.9	12.2	749
3	280	34.8	45.0	10.2	539	36.0	44.5	8.5	1,047
4	703	40.0	48.7	8.7	666	37.8	45.8	8.0	1,007
5	485	37.2	42.4	5.2	488	38.7	40.9	2.2	910
6	463	35.5	42.7	7.2	398	36.8	41.8	5.0	671
7	308	36.4	37.9	1.5	271	37.3	38.1	0.8	423
8	288	33.6	39.3	5.7	151	37.1	37.1	0.0	351
9	37	24.7	27.6	2.9	-	-	-	-	6
10	-	-	-	-	33	26.7	28.2	1.5	14
11	-	-	-	-	41	26.8	30.2	3.4	8
12	-	-	-	-	10	25.0	26.7	1.7	5
<b>TOTAL</b>	<b>2,877</b>	<b>36.9</b>	<b>44.5</b>	<b>7.6</b>	<b>3,067</b>	<b>36.2</b>	<b>42.4</b>	<b>6.2</b>	<b>5,191</b>

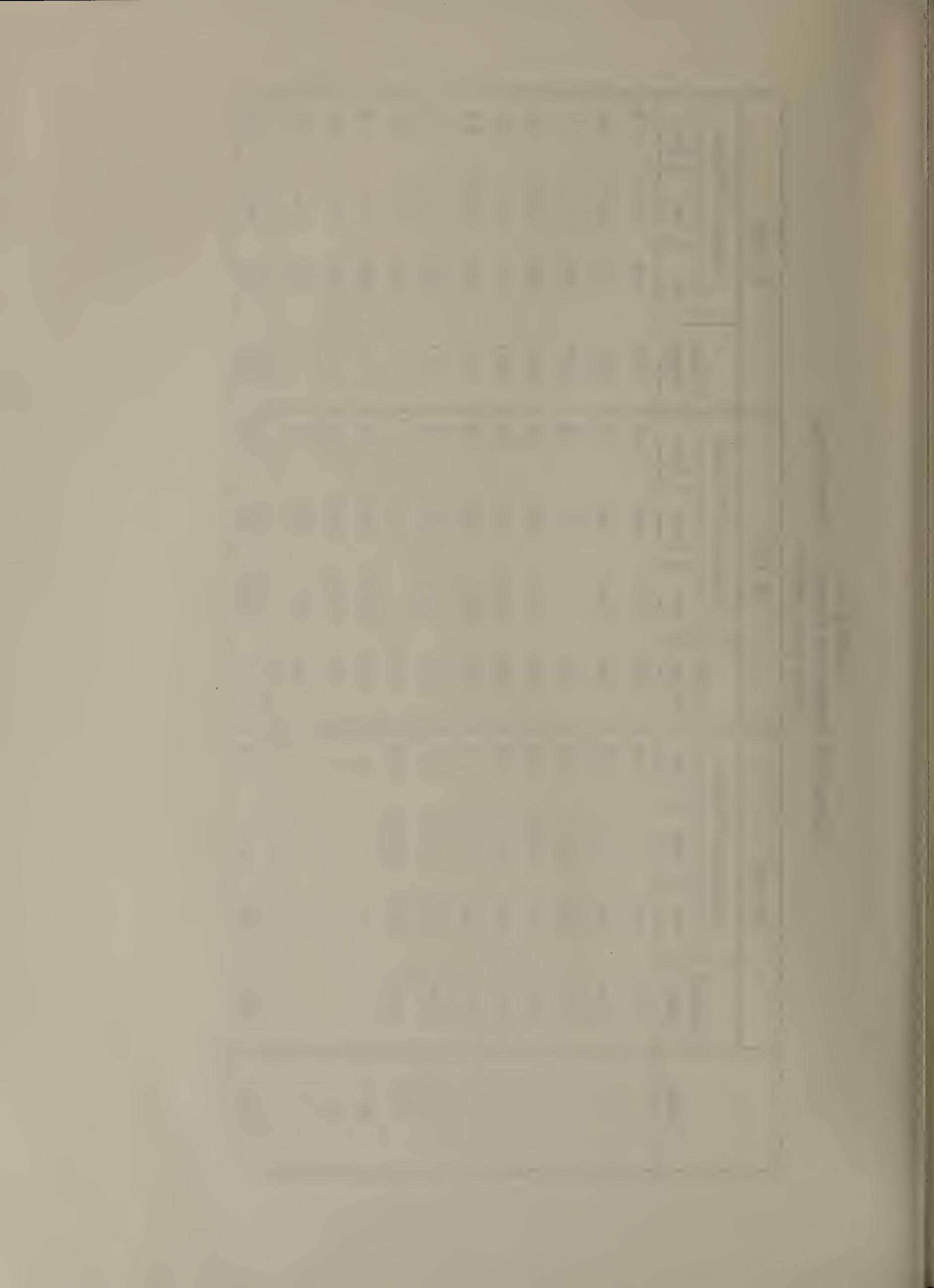


TABLE 15  
Other Language Arts Achievement Results — Fall-Spring Testing  
Fiscal Years 1987-89

Grade	FY 1987			FY 1988			FY 1989					
	Number Tested	Weighted NCE Mean		Number Tested	Weighted NCE Mean		Number Tested	Weighted NCE Mean				
		Pre	Post		Pre	Post		Pre	Post			
2	815	37.7	47.3	9.6	1,178	34.5	45.7	11.2	957	34.0	47.1	13.1
3	683	39.1	45.5	6.4	965	39.9	46.9	7.0	768	32.4	43.4	11.0
4	502	36.5	42.0	5.5	782	31.6	39.8	8.2	541	32.7	39.9	7.2
5	531	36.3	42.6	6.3	636	34.9	42.6	7.7	535	31.2	40.2	9.0
6	371	35.2	40.4	5.2	607	31.6	37.7	6.1	488	32.4	39.3	6.9
7	519	33.7	40.0	6.3	696	30.3	34.5	4.2	485	30.1	34.2	4.1
8	472	30.0	32.2	2.2	608	29.5	35.0	5.5	416	29.7	36.4	6.7
9	193	29.1	37.2	8.1	229	28.6	31.1	2.5	308	27.1	33.2	6.1
10	116	31.7	35.4	3.7	92	32.5	39.1	6.6	343	26.6	33.9	7.3
11	75	25.8	31.4	5.6	39	29.1	36.6	7.5	175	24.7	28.1	3.4
12	45	22.5	27.6	5.1	30	29.5	32.7	3.2	103	24.4	28.7	4.3
<b>TOTAL</b>	<b>4,322</b>	<b>35.2</b>	<b>41.5</b>	<b>6.3</b>	<b>5,862</b>	<b>33.4</b>	<b>40.7</b>	<b>7.3</b>	<b>5,119</b>	<b>31.0</b>	<b>39.5</b>	<b>8.5</b>

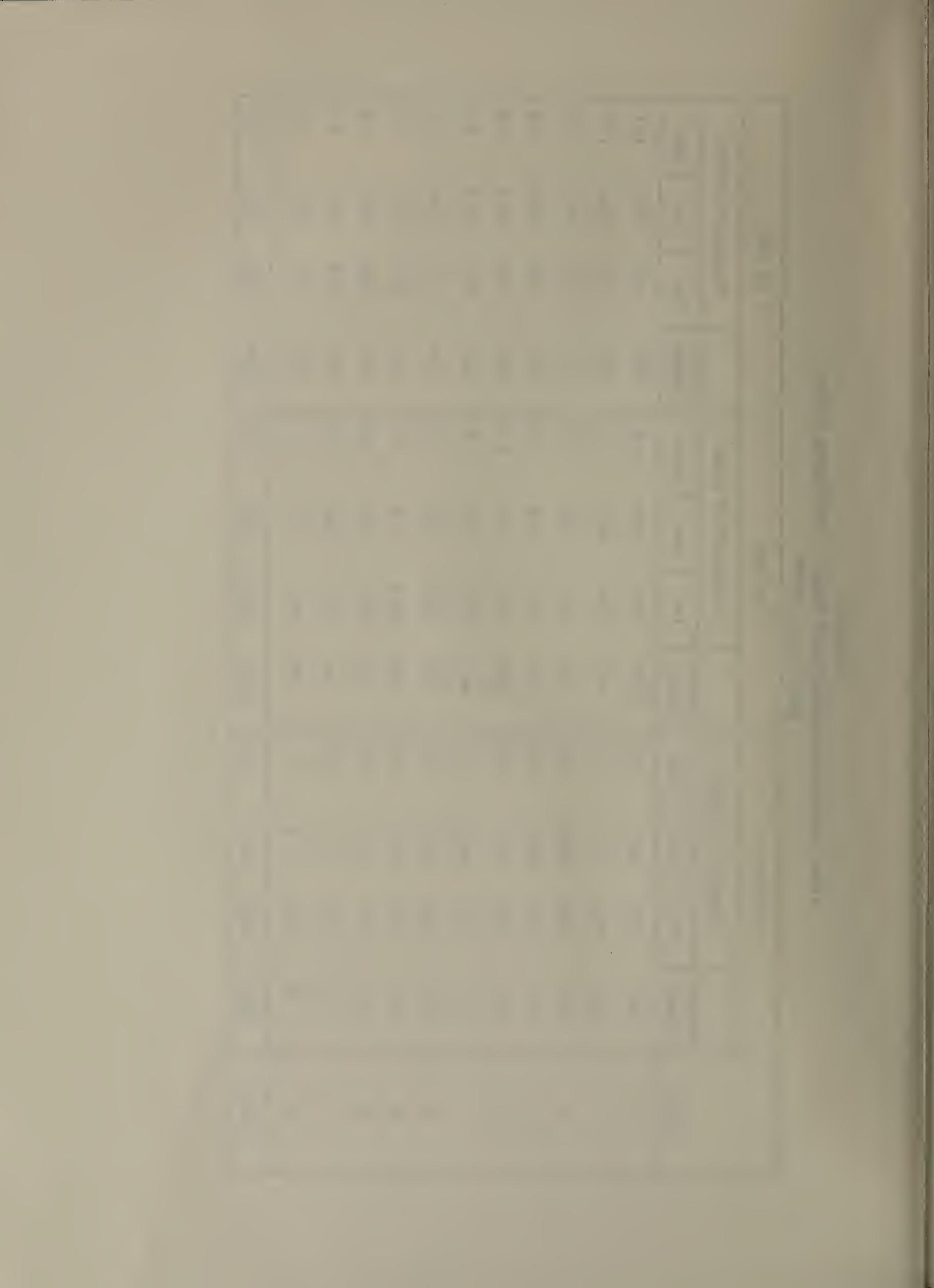


TABLE 16  
Other Language Arts Achievement Results — Annual Testing  
Fiscal Years 1987-89

Grade	FY 1987			FY 1988			FY 1989					
	Number Tested	Weighted NCE Mean		Number Tested	Weighted NCE Mean		Number Tested	Weighted NCE Mean				
		Pre	Post		Pre	Post		Pre	Post			
2	59	32.3	44.4	12.1	411	32.5	36.6	4.1	331	31.9	42.0	10.1
3	356	44.9	50.9	6.0	312	38.3	44.7	6.4	447	41.6	48.2	6.6
4	542	45.2	54.7	9.5	407	47.2	51.4	4.2	572	41.8	45.3	3.5
5	457	49.1	51.2	2.1	453	48.6	42.8	-5.8	499	40.6	41.6	1.0
6	398	44.4	48.0	3.6	458	43.3	47.0	3.7	443	38.1	42.0	3.9
7	119	38.0	38.7	0.7	69	36.7	37.9	1.2	361	37.8	34.2	-3.6
8	137	36.4	37.1	0.7	60	37.6	39.0	1.4	182	33.1	35.9	2.8
9	30	37.7	33.7	-4.0	49	35.1	38.9	3.8	-	-	0.0	0.0
10	-	-	-	0.0	49	25.7	28.8	3.1	-	-	0.0	0.0
11	-	-	-	0.0	49	24.8	30.3	5.5	-	-	0.0	0.0
12	-	-	-	0.0	51	26.5	32.1	5.6	-	-	0.0	0.0
<b>TOTAL</b>	<b>2,098</b>	<b>44.4</b>	<b>49.4</b>	<b>5.0</b>	<b>2,368</b>	<b>40.8</b>	<b>43.2</b>	<b>2.4</b>	<b>2,835</b>	<b>38.8</b>	<b>42.2</b>	<b>3.4</b>

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